

ABSTRACT

The present invention is directed in part to methods and materials for identifying and evaluating the molecular events associated with cellular reprogramming. More particularly, the invention identifies one or more “expression events” occurring within
5 cells, tissues, embryos, and/or animals that signal developmental competence or lineage-specific development. These expression events can be used to efficiently screen and select cells, tissues, embryos, and/or animals that are competent to undergo reprogramming from amongst a background of incompetent cells, tissues, embryos, and/or animals. Moreover, methods and molecules able to induce such expression events
10 can be identified and used to induce competence in otherwise incompetent cells, tissues, embryos, and/or animals.